

R E M A R K SIntroduction

Reconsideration and allowance of the subject application are respectfully requested.

Subject to the Examiner's approval, amendments are proposed to the drawings to add in all figures a new reference numeral which identifies the pivotal connection of the tine mounting member 18 to the arm member 16 now described in the amendments introduced to the specification. Submission of formal drawings which will contain these amendments and overcome the informalities of the originally-submitted informal drawings will be delayed until a notice of allowance is received.

The specification has been amended to describe parts and positional relationships that are illustrated in the figures of the drawings as originally filed such that the amendments are supported by the original disclosure of the subject application. This added description provides an antecedent basis in the specification for amendments made to independent Claims 1 and 12. No new matter has been introduced.

Claims 1, 11, 12 and 20 have been amended so as to eliminate indefiniteness in those portions thereof as was pointed out by the Examiner and thereby overcome the rejection of Claims 1-20 under 35 U.S.C. 112, second paragraph. No new matter has been introduced.

Independent Claims 1 and 12 and dependent Claim 6 have been amended so as to more clearly distinguish the invention defined therein over the cited prior reference. Dependent Claims 4 and 6 also have been amended so as to improve the clarity thereof. Claims 13 and 17 have been amended to make them consistent with the amendments made to independent Claim 12. No new matter has been introduced.

For reasons presented hereinafter, Claims 1-20 now pending in the application are believed to patentably distinguish the present invention over the cited prior art reference.

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Examiner's Rejection

The Examiner has rejected Claims 1-20 under 35 U.S.C. 102(b) as being clearly anticipated by Lull (U.S. Pat. No. 3,169,405).

Synopsis of Cited Reference

Lull (U.S. Pat. No. 3,169,405) discloses a load carrier for mounting on a mobile loader for handling a wide variety of loads, particularly lumber and the like. The load carrier includes a frame 20 transversely extending and supported at a forward end of a boom B of the mobile loader (not shown), a pair of forks 50, 70 spaced apart laterally from one another and mounted to the frame 20 at respective vertical side members 28, 30 thereof and projecting forwardly therefrom, and an upper articulated grab arm assembly 85 supported from the frame 20 at an upper middle portion thereof between and spaced above the forks 50, 70 and extending forwardly from the frame 20. The one fork 50 is mounted to the frame 20 so as to undergo limited vertical movement therealong by operation of a hydraulic double acting jack 60 mounted on the frame 20. The other fork 70 is mounted to the frame 20 so as to be movably relocatable inwardly from one side member 30 to a point short of the central portion of the frame 20. The grab arm assembly 85 includes a rearward pair of laterally spaced apart parallel straight arms 90 being pivotally mounted at their rear ends to a top horizontal member 26 of the frame 20, and a forward curved clamping member 117 having a pair of curved arms 116 interconnected by a curved plate 118 disposed between the arms 116. The clamping member 117 is pivotally connected at the rear ends of its arms 116 to forward ends of rearward arms 90 by a transverse shaft 104. The grab arm assembly 85 also includes a pair of hydraulic actuators or jacks 98, 126 being generally tandemly-positioned fore and aft relative to one another and operable to respectively cause pivoting of the rearward arms 90 and forward clamping member 117. The rear jack 98 is pivotally connected at a rear cylinder end 100 to the frame 20, specifically to a central vertical frame member 93 supported upright on the horizontal top member 26 of the frame 20.

The rear jack 98 extends generally forwardly therefrom to where it is pivotally connected at its front piston rod end 110 to a transverse bracket 102 on the transverse shaft 104 extending between the forward ends of the rearward arms 90. The front jack 126 is disposed generally forwardly of the rear jack 98 and at its rear cylinder end is spaced above the transverse shaft 104 and pivotally connected to the upper end 124 of a bracket framework 121 mounted on the rearward arms 90. The front jack 126 extends forwardly therefrom to where it is pivotally connected at its front piston rod end 128 to a bracket 130 located intermediate of the length of the clamping member 117 and substantially forwardly of the pivotal mounting of the rear ends of the arms 116 of the clamping member 117 to the transverse shaft 104. By operation of the rear and front jacks 98, 126, the grab arm assembly 85 is pivotally movable between selected positions relative to the forks 50, 70, as shown in FIG. 10. The forks 50, 70 extend forwardly from the frame 20 through substantially the same distance as the grab arm assembly 85 when the latter is at its lower load holding position such that the forks 50, 70, when supporting a load thereon that is also clamped by the grab arm assembly 85, will completely extend forwardly under the load from a rear side to a front side of the load. The forks 50, 70 will continue to support the load unassisted when the grab arm assembly 85 is pivoted to its raised rearward position away from the load. The grab arm assembly 85 when in the raised rearward position, as described in column 5, lines 4-7, enables loads such as lumber, crates and the like to be loaded and carried on the forks 50, 70 without interference from the upper grab arm assembly 85.

#### Arguments For Patentability

None of the prior art references made of record, taken either singly or in any valid combination, disclose, teach or suggest the odd-shaped object grasping apparatus defined in amended independent Claims 1 and 12 and the claims depending thereon. It is readily apparent in view of the brief synopsis of the relevant disclosure

of the cited reference set forth in the preceding paragraph that this reference, individually or in combination with other prior art references made of record, fails to contemplate the odd-shaped object grasping apparatus, as defined in amended independent Claims 1 and 12, having: (1) a support member mounted adjacent to a lower end of a main frame and extending outwardly therefrom through a first distance; (2) an arm member pivotally mounted to the main frame above the support member and extending outwardly therefrom through a second distance substantially greater than the first distance of the support member; (3) a tine mounting member mounted to an outer end of the arm member by a pivotal connection therewith; (4) a tine mounted to the tine mounting member at a location spaced outwardly from the arm member and disposed adjacent to and extending outwardly from a first side of the pivotal connection of the tine mounting member to the arm member such that the tine can be positioned at a location spaced forwardly from the support member so as to enable the support member and tine together to grasp and support an object located therebetween for relocating the object upon maneuvering of the apparatus by operation of the material handling vehicle without the support member having to extend sufficiently under the object to alone support the object without assistance from the tine; and (5) means for respectively pivotally moving the arm member and tine mounting member therewith relative to the main frame and support member mounted thereto and for pivotally moving the tine mounting member and tine therewith relative to the arm member through respective first and second arcuate paths toward and away from the main frame and support member such that the support member and tine together may be brought into engagement with and thereby together grasp and support the object at spaced rearward and forward locations thereon for relocating the object upon maneuvering of the apparatus by operation of the material handling vehicle wherein the pivotally moving means is located between the main frame and the pivotal connection of the tine mounting member to the arm member and disposed adjacent to a second side of the pivotal connection being

substantially opposite from the first side of the pivotal connection where the tine is located.

Furthermore, the cited reference fails to contemplate the odd-shaped object grasping apparatus, as further defined in amended independent Claim 12, wherein the arm member is formed by a pair of elongated rigid links laterally spaced apart from one another and the pivotally moving means includes a main actuation mechanism disposed above the links of the arm member and an auxiliary actuation mechanism disposed below the main actuation mechanism and substantially between the links of the arm member and located between the main frame and the pivotal connection of the tine mounting member to the support arm and adjacent to the second side of the pivotal connection substantially opposite from the first side of the pivotal connection.

In contrast to the above-paraphrased features of the invention now defined in amended independent Claims 1 and 12, the cited reference to Lull discloses a load carrier which includes a pair of forks 50, 70 spaced apart laterally from one another and mounted to the frame 20 and projecting forwardly therefrom and an upper articulated grab arm assembly 85 spaced above the forks 50, 70 and supported from the frame 20 and extending forwardly therefrom through a distance substantially the same as the distance of the forks 50, 70 when the grab arm assembly 85 is at its lower load holding position. The grab arm assembly 85 includes a rearward pair of arms 90 pivotally connected to the frame 20 and extending forwardly therefrom and a forward curved clamping member 117 pivotally connected to the rearward pair of arms 90 by a transverse shaft 104 and extending forwardly therefrom. The grab arm assembly 85 also includes a pair of hydraulic actuators or jacks 98, 126 being generally tandemly-positioned fore and aft relative to one another and disposed above the respective arms 90 and clamping member 117 and operable to respectively cause pivoting of the rearward arms 90 and forward clamping member 117. The rear jack 98 is pivotally connected at a rear cylinder end 100 to the frame 20 and at a front piston rod end to the transverse shaft 104. The

front jack 126 is disposed generally forwardly of the rear jack 98 and at its rear cylinder end is spaced above the transverse shaft 104 and pivotally connected to the upper end 124 of a bracket framework 121 mounted on the rearward arms 90. The front jack 126 extends forwardly therefrom to where it is pivotally connected at its front piston rod end 128 to a bracket 130 located intermediate of the length of the clamping member 117 and substantially forwardly of the pivotal mounting of the rear ends of the arms 116 of the clamping member 117 to the transverse shaft 104. By operation of the rear and front jacks 98, 126, the grab arm assembly 85 is pivotally movable between selected positions relative to the forks 50, 70, as shown in FIG. 10. By the forks 50, 70 extending forwardly from the frame 20 through substantially the same distance as the grab arm assembly 85 when the latter is at its lower load holding position, the forks 50, 70, when supporting a load thereon that is also clamped by the grab arm assembly 85, will completely extend forwardly under the load from a rear side to a front side of the load such that the forks 50, 70 will continue to support the load unassisted when the grab arm assembly 85 is pivoted to its raised rearward position away from the load. Lull thus fails to disclose or teach the positional relationships of the arm member and support member relative to one another and to the main frame and the positional relationship of main and auxiliary actuation mechanisms of the pivotally moving means to one another and to the arm member and tine mounting member and tine, as paraphrased above and now defined in amended independent Claims 1 and 12. These positional relationships permit Applicant's apparatus to be more compact than the carrier of Lull in that Applicant's support member and auxiliary actuation mechanism are disposed closer to the main frame than are Lull's forks 50, 70 and front jack 126. Furthermore, Applicant's apparatus can grasp and move an object with only a minimum extension of the support member and tine under the object whereas the forks 50, 70 have to be extended substantially completely under the object for the object to be lifted and moved by the Lull carrier. The other prior art

references made of record fail to fill in the gaps in the teachings of the Lull reference. One of ordinary skill in the art would not be led nor motivated by the teachings of Lull nor of the teachings of these other references to modify the device of Lull so as to replicate the device as now defined in Applicant's amended independent Claims 1 and 12 without the application of a prohibited form of hindsight reasoning guided solely by Applicant's specification.

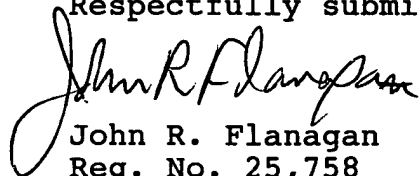
### Conclusion

It is submitted that in light of the above-mentioned differences, a case of prima facie anticipation or obviousness against the invention as now defined in Claims 1-20 has not been presented based on the reference cited in the rejection by the Examiner for reason that the amended claims are now too many steps removed from the teachings of the cited reference to be considered as anticipated or obvious in view thereof.

In view of the foregoing amendments and remarks, Claims 1-20, as now presented, are considered to satisfy the requirements of Section 112 and to distinguish over the prior art of record under Sections 102 and 103 and thereby to be patentable. Thus, favorable consideration and allowance of the subject application are respectfully solicited.

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Respectfully submitted,



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